UNITED STATES DEPARTMENT OF COMMERCE
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APPLICATION NO.	FILING DATE	FIRST NAMED INVENTOR	ATTORNEY DOCKET NO.
09/334,974	06/17/99	FOSTER	D 115-3189-U

IM22/0614

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EXAMINER	
CANTELMO, G	
ART UNIT	PAPER NUMBER
1753	21

DATE MAILED:
06/14/01

Please find below and/or attached an Office communication concerning this application or proceeding.

Commissioner of Patents and Trademarks

Office Action Summary

Application No.	Applicant(s)
09/334,974	Foster et al.
Examiner	**Art Unit**
Gr gg Cantelmo	1753

-- The MAILING DATE of this communication app ars on th c v r sheet with the correspondenc address --

Period for Reply

A SHORTENED STATUTORY PERIOD FOR REPLY IS SET TO EXPIRE 3 MONTH(S) FROM THE MAILING DATE OF THIS COMMUNICATION.

- Extensions of time may be available under the provisions of 37 CFR 1.136 (a). In no event, however, may a reply be timely filed after SIX (6) MONTHS from the mailing date of this communication.
- If the period for reply specified above is less than thirty (30) days, a reply within the statutory minimum of thirty (30) days will be considered timely.
- If NO period for reply is specified above, the maximum statutory period will apply and will expire SIX (6) MONTHS from the mailing date of this communication.
- Failure to reply within the set or extended period for reply will, by statute, cause the application to become ABANDONED (35 U.S.C. § 133).
- Any reply received by the Office later than three months after the mailing date of this communication, even if timely filed, may reduce any earned patent term adjustment. See 37 CFR 1.704(b).

Status

1) ☒ Responsive to communication(s) filed on *3/23/01 and 4/19/01 and 6/7/01*

2a) ☐ This action is **FINAL.** 2b) ☒ This action is non-final.

3) ☐ Since this application is in condition for allowance except for formal matters, prosecution as to the merits is closed in accordance with the practice under *Ex parte Quayle*, 1935 C.D. 11; 453 O.G. 213.

Disposition of Claims

4) ☒ Claim(s) *1, 2, 4, 5, 7-24, 26-36, and 55-63* is/are pending in the applica

4a) Of the above, claim(s) _____ is/are withdrawn from considera

5) ☐ Claim(s) _____ is/are allowed.

6) ☒ Claim(s) *1, 2, 4, 5, 7-24, 26-36, and 55-63* is/are rejected.

7) ☐ Claim(s) _____ is/are objected to.

8) ☐ Claims _____ are subject to restriction and/or election requirem

Application Papers

9) ☐ The specification is objected to by the Examiner.

10) ☐ The drawing(s) filed on _____ is/are objected to by the Examiner.

11) ☐ The proposed drawing correction filed on _____ is: a) ☐ approved b) ☐ disapproved.

12) ☐ The oath or declaration is objected to by the Examiner.

Priority under 35 U.S.C. § 119

13) ☐ Acknowledgement is made of a claim for foreign priority under 35 U.S.C. § 119(a)-(d).

a) ☐ All b) ☐ Some* c) ☐ None of:

1. ☐ Certified copies of the priority documents have been received.
2. ☐ Certified copies of the priority documents have been received in Application No. _____.
3. ☐ Copies of the certified copies of the priority documents have been received in this National Stage application from the International Bureau (PCT Rule 17.2(a)).

*See the attached detailed Office action for a list of the certified copies not received.

14) ☐ Acknowledgement is made of a claim for domestic priority under 35 U.S.C. § 119(e).

Attachment(s)

15) ☐ Notice of References Cited (PTO-892)

16) ☐ Notice of Draftsperson's Patent Drawing Review (PTO-948)

17) ☐ Information Disclosure Statement(s) (PTO-1449) Paper No(s). _____

18) ☐ Interview Summary (PTO-413) Paper No(s). _____

19) ☐ Notice of Informal Patent Application (PTO-152)

20) ☐ Other:

DETAILED ACTION

Response to Amendment

1. In response to the CPA request received on April 19, 2001:

a. The CPA request filed April 19, 2001 and the request for reconsideration filed June 7, 2001 have been entered;

b. The proposed amendment filed March 23, 2001 has been entered;

c. The 103(a) rejections presented in the previous office action stand.

Continued Prosecution Application

2. The request filed on November 30, 2000 for a Continued Prosecution Application (CPA) under 37 CFR 1.53(d) based on parent Application No. 09/334,974 is acceptable.

Applications with filing dates after May 29, 2000 are not entitled to CPA requests. In line with the transition to RCE, this application has been filed as an RCE. Applicant is advised to review the assessed fees to ensure that the proper fees have been charged for an RCE.

Claim Rejections - 35 USC § 103

3. The following is a quotation of 35 U.S.C. 103(a) which forms the basis for all obviousness rejections set forth in this Office action:

> (a) A patent may not be obtained though the invention is not identically disclosed or described as set forth in section 102 of this title, if the differences between the subject matter sought to be patented and the prior art are

such that the subject matter as a whole would have been obvious at the time the invention was made to a person having ordinary skill in the art to which said subject matter pertains. Patentability shall not be negatived by the manner in which the invention was made.

4. Claims 1-2, 4-5, 7-9, 21-24, 26-28, and 55-63 are rejected under 35 U.S.C. 103(a) as being unpatentable over U.S. patent No. 5,413,874 (Moysan '874) in view of European Patent Application No. 0 486 711 A1 (EP '711); all of record and for the reasons of record.

Moysan '874 is drawn to a process coating an article with a multilayer coating comprising a plated metal layer of a nickel alloy and a sputter deposited (i.e., physical vapor deposited (PVD)) refractory metal layer, preferably zirconium deposited on the nickel alloy (abstract and Example 1; as applied to instant claims 1-2, 4-5, and 21-24).

The article is comprised of a platable metal or metallic alloy substrate such as brass (col. 2, lines 9-12 as applied to instant claims 55 and 56). Although zinc is not disclosed, the skilled artisan would have found it obvious to use zinc as well since it is considered a type of platable metal (as applied to instant claim 57).

The article can be any type of material such as lamps, door knobs, door handles, door escutcheons, an so forth (col. 1, lines 13-16). The skilled artisan would have found it obvious to select the appropriate form of the article dependent upon the intended use of the substrate (as applied to instant claims 59-63).

A refractory metal compound selected from nitrides is also deposited and by example is zirconium nitride (paragraph bridging columns 7 and 8 as applied to instant claims 7-9, 26-28).

The difference between the instant claims and Moysan '874 is that Moysan '874 fails to explicitly disclose of a step of subjecting the plated layer to pulses of air to dry and clean the article surface (instant claim 1).

EP '711 discloses of a procedure for blowing off liquid from an object by using pulsating compressed air to dispel the liquid (abstract). This reference particularly teaches that this process is advantageously used in plating processes such as electroplating (page 5 of translation) to remove and recover electrolytes and further to provide a "spot-free" dryness, i.e., that no drops or traces of drops remain on the dried objects. Upon removing the unused electrolytes, the object will also be cleaned.

Therefore it would have been obvious to one of ordinary skill in the art at the time the claimed invention was made to modify the teachings of Moysan '874 by incorporating the pulsed air process of EP '711 since it would have provided a means to remove and recover excess electrolytes on the surface of the article and also to provide a "spot-free" dryness, i.e., that no drops or traces of drops remain on the dried objects.

Response to Arguments

5. Applicant's arguments filed March 23, 2001 have been fully considered but they are not persuasive. In particular:

In response to applicant's argument that the examiner's conclusion of obviousness is based upon improper hindsight reasoning, it must be recognized that any judgment on obviousness is in

a sense necessarily a reconstruction based upon hindsight reasoning. But so long as it takes into account only knowledge which was within the level of ordinary skill at the time the claimed invention was made, and does not include knowledge gleaned only from the applicant's disclosure, such a reconstruction is proper. See *In re McLaughlin*, 443 F.2d 1392, 170 USPQ 209 (CCPA 1971).

Moysan '874 discloses first depositing a electroplated film prior to depositing a PVD film. EP '711 teaches that it is desired to pulse dry electroplated films to dry the film and recover electrolytes.

One of ordinary skill in the art would have found it obvious to employ this pulse drying step in the teachings of Moysan '874 to dry the electroplated surface and recover unused electrolytes. This step would have obviously been applied prior to a PVD coating to effectively achieve the advantages taught by EP '711.

Claim Rejections - 35 USC § 103

6. Claims 29-32 are rejected under 35 U.S.C. 103(a) as being unpatentable over Moysan '874 in view of EP '711 as applied to claims 1-2, 4-5, 7-9, 21-24, 26-28, and 55-63 above, and further in view of U.S. patent No. 5,626,972 (Moysan '972) and U.S. patent No. 4,029,556 (Monaco); all of record and for the reasons of record.

The teachings of Moysan '874 and EP '711 have already been discussed. It is considered that claim 31 is identical in content to claim 4. Likewise claims claim 32 and claim 5 are held to be identical in content.

The differences not yet discussed are of: depositing a chrome film over a nickel film (instant claim 29) and depositing the refractory metal film on top of the chrome film (instant claim 30).

Moysan '972 discloses of plating both nickel and thereafter chromium (i.e., chrome) on an article prior to depositing the refractory metal constituents (see col. 1, lines 49-65 and lines 19-36).

Monaco discloses of a plating method wherein various form substrates are first coated with a nickel plating (col. 1, lines 10-14). Standard practice in the art further discloses of electrolytically depositing chromium over the nickel coatings to provide a tarnish resistance which is not only decorative but corrosion resistant (col. 1, lines 18-24). Although the invention of Monaco does not employ chromium (i.e., chrome) it clearly establishes that depositing chrome on a plated nickel film was at the time well known and provided the aforementioned advantages.

Therefore, it would have been obvious to one of ordinary skill in the art at the time the claimed invention was made to modify the teachings of Moysan '874 by depositing chromium over the nickel layer and thereafter depositing the refractory metal comprising material as taught by Moysan '972 and Monaco since it is well known in the art in the formation of brass articles to first electrolytically deposit nickel, then chrome on top of the nickel plating prior to refractory

metal deposition to provide an article of highly polished brass with wear and corrosion resistance protection.

Response to Arguments

7. Applicant's arguments filed March 23, 2001 have been fully considered but they are not persuasive. In particular:

Applicant provides no arguments to this combination of prior art apart from those drawn to the primary 103 rejection of Moysan '874 in view of EP '711, discussed above and incorporated herein.

Claim Rejections - 35 USC § 103

8. Claim 10-13, 18, and 20 are rejected under 35 U.S.C. 103(a) as being unpatentable over Moysan '874 in view of EP '711 as applied to claims 1-2, 4-5, 7-9, 21-24, 26-28, and 55-63 above, and further in view of Moysan '972 and U.S. patent No. 5,558,759 (Pudem) and U.S. patent No. 4,273,837 (Coll-Palagos); all of record and for the reasons of record.

The teachings of Moysan '874 and EP '711 have already been discussed. It is considered that claim 31 is identical in content to claim 4. Likewise claims claim 32 and claim 5 are held to be identical in content.

Moysan '874 discloses of the refractory metal being zirconium (instant claims 12 and 13); if a zirconium nitride film deposited on the zirconium film (instant claims 18 and 20).

The differences not yet discussed are of: plating a copper film on a portion of an article's surface and subsequently plating a nickel layer on said copper layer and a chrome layer on said nickel layer (instant claim 10).

Pudem teaches of metal finishing processes wherein a first copper plating step is performed and thereafter, to form a brass finish, nickel and then chrome are plated (col. 10, lines 1-19). Coll-Palagos teaches that the use of copper as an intermediate plating metal between the article to be coated and the decorative and protective outer coatings is well known in the art since copper can be easily plated with decorative metals such as chromium (col. 4, lines 43-59 as applied to instant claim 10). Moysan '972 discloses of physical vapor depositing a refractory metal or refractory metal alloy on the chrome layer (instant claim 11).

Therefore it would have been obvious to one of ordinary skill in the art at the time the claimed invention was made to modify the teachings of Moysan '874 by plating the multilayer structure first with a copper plating layer as suggested in the teachings of Pudem and Coll-Palagos + Moysan '972 since copper plating provides an adherent coating surface on a substrate to enhance the adherence of subsequently plated materials with the substrate. The combined structure would have improved the decorative and protective characteristics of the article of Moysan '874.

Response to Arguments

9. Applicant's arguments filed March 23, 2001 have been fully considered but they are not persuasive. In particular:

In response to applicant's argument that the examiner has combined an excessive number of references, reliance on a large number of references in a rejection does not, without more, weigh against the obviousness of the claimed invention. See *In re Gorman*, 933 F.2d 982, 18 USPQ2d 1885 (Fed. Cir. 1991). Applicant provides no additional weight to this argument with respect to the claimed invention.

In response to applicant's argument that the examiner's conclusion of obviousness is based upon improper hindsight reasoning, it must be recognized that any judgment on obviousness is in a sense necessarily a reconstruction based upon hindsight reasoning. But so long as it takes into account only knowledge which was within the level of ordinary skill at the time the claimed invention was made, and does not include knowledge gleaned only from the applicant's disclosure, such a reconstruction is proper. See *In re McLaughlin*, 443 F.2d 1392, 170 USPQ 209 (CCPA 1971). Reasons for combining have been set forth in the rejection above.

Claim Rejections - 35 USC § 103

10. Claims 14-17, 19, and 33-36 are rejected under 35 U.S.C. 103(a) as being unpatentable over Moysan '874 in view of Moysan '972, Monaco, as applied to claims above, and further in view of U.S. patent No. 5,922,478 (Welty); all of record and for the reasons of record.

The teachings of Moysan '874, Moysan '972, Monaco, and have already been discussed.

The difference not yet discussed is of depositing the claimed sandwich coating (instant claims 14 and 33) nor of depositing the particular films thereafter (instant claims 15-17, 19, and 32-36).

Welty discloses of coating an article with a nickel layer, chrome layer, a refractory metal layer (preferably zirconium), a sandwich layer comprised of a plurality of alternating layers of a refractory metal compound and a refractory metal compound layer (see abstract). Thereafter zirconium nitride film 32 and layer 34 of reaction products of a refractory metal or refractory metal alloy, oxygen and nitrogen or of a refractory metal oxide or refractory metal alloy oxide (col. 7, lines 8-13).

Therefore it would have been obvious to one of ordinary skill in the art at the time the claimed invention was made to modify the teachings of Moysan '874 with the alternating sandwich layers as taught by Welty since it would have provided wear resistance, corrosion protection, and acid resistance to the coated article.

Response to Arguments

11. Applicant's arguments filed March 23, 2001 have been fully considered but they are not persuasive. In particular:

In response to applicant's argument that the examiner has combined an excessive number of references, reliance on a large number of references in a rejection does not, without more, weigh against the obviousness of the claimed invention. See *In re Gorman*, 933 F.2d 982, 18

USPQ2d 1885 (Fed. Cir. 1991). Applicant provides no additional weight to this argument with respect to the claimed invention.

In response to applicant's argument that the examiner's conclusion of obviousness is based upon improper hindsight reasoning, it must be recognized that any judgment on obviousness is in a sense necessarily a reconstruction based upon hindsight reasoning. But so long as it takes into account only knowledge which was within the level of ordinary skill at the time the claimed invention was made, and does not include knowledge gleaned only from the applicant's disclosure, such a reconstruction is proper. See *In re McLaughlin*, 443 F.2d 1392, 170 USPQ 209 (CCPA 1971). Reasons for combining have been set forth in the rejection above.

Conclusion

12. Any inquiry concerning this communication or earlier communications from the examiner should be directed to Gregg Cantelmo whose telephone number is (703) 305-0635. The examiner can normally be reached on Monday through Thursday from 8:30 a.m. to 5:30 p.m. Other forms of communication can be contacted through the appropriate contacts indicated in the conclusion of the previous office action, incorporated herein.

NAM NGUYEN
SUPERVISORY PATENT EXAMINER
TECHNOLOGY CENTER 1700

gc

June 8, 2001